

CLAIMS

1. A method for the identification of a compound which affects mRNA stability, in which a DNA expression system which in the absence of the test compound is capable of expressing a protein having a detectable signal, and wherein the mRNA which codes for the protein and which is transcribed from the expression system comprises at least one copy of a mRNA instability sequence is contacted with a test compound and the detectable signal is measured in the presence of the test compound and compared with a control.
2. A method according to claim 1, for the identification of a compound which induces mRNA degradation, comprising contacting the compound with a DNA expression system which in the absence of the compound is capable of expressing a protein having a detectable signal, wherein the mRNA which codes for the protein and which is transcribed from the expression system comprises at least one copy of a mRNA instability sequence, measuring the detectable signal in the presence of the test compound and comparing the result obtained with a control.
3. A method for the comparison of compounds which induce mRNA degradation, comprising separately contacting the compounds with a DNA expression system which in the absence of the compounds is capable of expressing a protein having a detectable signal, wherein the mRNA which codes for the protein and which is transcribed from the expression system comprises at least one copy of a mRNA instability sequence, measuring the detectable signal in the presence of each test compound and comparing the signals obtained.
4. A reporter gene DNA expression system comprising a gene coding for expression of a protein having a detectable signal, wherein the gene comprises DNA coding for the amino acid sequence of the protein together with associated 5' and 3' UTR sequences

comprising appropriate expression control elements and DNA corresponding to at least one copy of a mRNA instability sequence.

5. A stably transfected cell line comprising a reporter gene DNA expression system according to claim 4.

6. An assay system for the identification of compounds which destabilise mRNA comprising

a reporter gene DNA expression system as defined in claim 4, and
a control DNA expression system which comprises a gene coding for expression of the protein having the detectable signal, wherein the gene comprises DNA coding for the amino acid sequence of the protein together with associated 5' and 3' UTR sequences comprising appropriate expression control elements but lacking any functional mRNA instability sequence.

7. An assay system comprising
a stably transfected cell line according to claim 5, and
a stably transfected cell line comprising a control DNA expression system as defined in claim 6.

8. A stably transfected cell line comprising a reporter gene DNA expression system according to claim 4 and a control gene DNA expression system, said control gene DNA expression system comprising a gene coding for expression of a protein having a detectable signal which is different than the protein of the reporter gene DNA expression system and wherein said control gene DNA expression system comprises DNA coding for the amino acid sequence of the protein together with associated 5' and 3' UTR sequences comprising appropriate expression control elements but lacking any functional mRNA instability sequence.

9. An assay system comprising a stably transfected cell line according to claim 8.

- Sub 93
10. A compound which destabilises mRNA when identified by a method according to any one of claims 1-3, or by use of a DNA expression system according to claim 4, a cell line according to claim 5 or 8, or an assay system according to claim 6, 7 or 9.
- Sub 94
11. Use of a compound according to claim 10 for the prophylaxis or treatment of a disease or medical condition which involves inappropriate mRNA stabilisation and/or accumulation and undesirable protein expression.
- add 94
- add 91

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